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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,614	03/01/2002	Sissy Kyriazidou	BP 2099	7932

7590 05/20/2003  
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EXAMINER

POKER, JENNIFER A

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/087,614

Applicant(s)

KYRIAZIDOU ET AL.

Examiner

Jennifer A. Poker

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Election/Restrictions and General Status*

1. Applicant's election without traverse of Claims 1-15 in Paper No. 7 is acknowledged. The non-elected claims, 16-30, have therefore been cancelled without prejudice as instructed by applicant. Claims 16-30 are pending and are therefore being examined.

### *Specification*

2. The disclosure is objected to because of the following informalities: The *title* must relate to the "claimed" invention, which is the High-Q on-chip inductor and not the method of manufacture. The "Method of Manufacture" should be omitted from the title.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 2-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 2, applicant states that the admittance includes "self-admittance" and "coupled admittance". It was unclear what applicant had meant by these two terms. As best understood, self-admittance would be the admittance by either the primary or auxiliary winding ALONE, and coupled admittance would be the admittance once coupled. Prior art was applied accordingly.

*Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5, 7-12, 14, and 15 rejected under 35 U.S.C. 102(e) as being unpatentable by U.S. Patent Number 6,501,363 to Hwu, et al.

Hwu, et al, discloses a vertical transformer, which is an inductive device, the transformer comprising:

(1) A primary winding, with a plurality of turns, positioned on a first plane and having a terminal in the center and at an exterior end wherein the center terminal is connected to a center terminal of a secondary winding, (Figure 1A) (Abstract) (Column 2, lines 57-67 and Column 3, lines 1-30)

(2) A secondary winding, with a plurality of turns, positioned on a second plane, proximally separated from the primary winding by a dielectric substrate, and having a terminal in the center and at an exterior end wherein the center terminal is connected to the center terminal of the primary winding, (Figure 1A) (Abstract) (Column 2, lines 57-67 and Column 3, lines 1-30)

(3) A conductive surface that forms a plane that is parallel to the planes of the primary and second windings, which functions as a ground for the electrical connections, (Figure 1A) (Abstract) (Column 2, lines 57-67 and Column 3, lines 1-30)

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(4) Any type of substrate, used as a foundation, and a dielectric layer, such as polyamides, applied over the lower winding (Column 5, lines 30-31)

Applicant defined "admittance" on page 6, lines 26-27 as "the inverse of impedance of the winding at an operating frequency". Hwu, et al, discusses impedances, so it was understood that impedance was simply the inverse of admittance.

Hwu, et al, illustrates in figures 5-9 transformed impedances when a port is connected to a particular impedance load. With reference to FIG. 5, the graph illustrates the transformed impedance of a transformer in accordance with one embodiment having a 200-Ohm impedance load connected to port 2. As shown in FIG. 5, the input impedance of port 1 varies over a wide range of frequencies. As can be seen from the graph of FIG. 5, the 200 Ohm impedance load connected to port 2 is respectively transformed into 1500, 1000 and 800 Ohms for a 4, 6, and 8 micron separation between windings. In addition, the input impedance of port 1 is more uniform. (Column 6, lines 23-37)

Additional figures illustrate the impedance (inverse of admittance) was different between windings.

It can be seen from figure 1A that the windings are not symmetrical due to different number of turns.

### *Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

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skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent Number 6,501,363 to Hwu, et al.

Hwu, et al, discloses the claimed invention except for a "poly-silicon" material used as a shield below a dielectric material. Hwu, et al, does disclose any type of substrate, which may be used as a foundation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a lower foundation which would increase desired properties of the device, since it has been held to be within general skill of a worker in the art, to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.


### *Contact Information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Poker whose telephone number is 703-305-4037. The examiner can normally be reached on 6:00-3:30, Mon.-Fri. (alternating Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on 703-308-7619. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

jap  
May 13, 2003

  
**ELVIN ENAD**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2832

J/15/03